

**CLAIMS:**

1. A process for the creation of a merged image comprising the steps of:
  - a. preparing at least two base images in digital format;
  - b. selecting a pattern wherein said pattern comprises a multiplicity of cells, each cell having  $n$  regions wherein  $n$  is the number of prepared base images and wherein each region of a cell is assigned to a different prepared base image;
  - c. applying the pattern to each base image;
  - d. selecting a mergable portion of each respective base image wherein the mergable portion includes a tile corresponding to the region of each cell assigned to the respective base image;
  - e. merging of the mergable portions of each respective base image to provide a merged image.
2. A process as claimed according to claim 1 wherein the number of regions of each cell of respective base image affected by the application of the pattern is related to the number of base images to be merged.
3. A process as claimed according to claim 2 wherein the number of base images to be merged is  $n$ , and the number of regions of each cell of respective base image affected by the application of the pattern is  $n-1$ .
4. A process as claimed according to claim 1 wherein the process is performed using at least one computer with software to perform the steps in the process.
5. A process as claimed according to claim 1 wherein the pattern selected for application to the base images is a grid.
6. A process as claimed according to claim 5 wherein each base image has a grid applied to it digitally, to divide the base image into a multiplicity of cells and each cell into a multiplicity of regions.
7. A process as claimed according to claim 6 wherein the dimensions of the grid are determined relative to a dimension of either a base image or a dimension of the merged image which is required by a user.
8. A process as claimed according to claim 6 wherein the cells and regions into which the grid divides each base image are sized according to a dimension of either the base image or a dimension of the merged image which is required by a

user.

9. A process as claimed according to claim 6 wherein the cells and regions have a particular shape chosen to achieve or maintain high tolerance with regard to pixel or cells and region spacing.
10. A process as claimed according to claim 6 wherein one or more of the base images are divided into differently shaped cells and regions.
11. A process as claimed according to claim 1 wherein the application of the pattern to each of the base images is such that when the selected mergable portions of each image are combined to form the merged image, the mergable portions of each image are positioned at a predetermined spacing in relation to one another.
12. A process as claimed according to claim 1 wherein the selected mergable portions of each base image are merged digitally to form a single layer image.
13. A process as claimed according to claim 12 wherein at least one additional layer is added to the single layer image, the entire additional layer being digitally transparent except for advertising material such as trade marks and other digital information, for example vernier scales, calibration scales or image borders.
14. A computer network based process comprising the steps of:
  - a. at least one end user supplying at least two base images to an image interrogation means;
  - b. the image interrogation means checking the base images for suitability and size;
  - c. preparing at least two base images in digital format;
  - d. selecting a pattern wherein said pattern comprises a multiplicity of cells, each cell having  $n$  regions wherein  $n$  is the number of prepared base images and wherein each region of a cell is assigned to a different prepared base image;
  - e. applying the pattern to each base image;
  - f. selecting a mergable portion of each respective base image wherein the mergable portion includes a tile corresponding to the region of each cell assigned to the respective base image;
  - g. merging of the mergable portions of each respective base image to provide a merged image; and
  - h. forwarding the merged image to the end user.

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15. A computer network based process as claimed according to claim 14 wherein the base images are forwarded to an interrogation means which then forwards the base images to a third party for the application of the process for the creation of the merged digital image.
16. A computer network based process as claimed according to claim 14 wherein the third party is able to control the quality of merged images produced.
17. A computer network based process as claimed according to claim 16 wherein the third party is a licensor of the process for the creation of the merged digital image and selectively controls access and use of the process through license agreements with at least one licensee.
18. A computer network based process as claimed according to claim 17 wherein according to the license agreement, the third party/licensor collects income in the form of licence or royalty payments from licensees, according to predetermined parameters of the base images or merged images
19. A computer network based process as claimed according to claim 17 wherein the third party/licensor is able to accurately track individual merged images and the quantity of base images and/or merged images output for a particular operator/licensee.